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| 10/643,102   | 08/18/2003  | Mark Krier           | 024833-2602         | 3314             |
| 30542 7590 02/19/2009<br>FOLEY & LARDNER LLP<br>P.O. BOX 80278<br>SAN DIEGO, CA 92138-0278 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| A. MINH D  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/643,102

**Applicant(s)**

KRIER ET AL.

**Examiner**

MINH D. A

**Art Unit**

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-11, 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11 and 13-17 is/are allowed.
- 6) ☒ Claim(s) 3-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 3/27/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: \_\_\_\_\_

### ***DETAILED ACTION***

This Office Action is a response to Applicant's Amendment filed on January 19, 2009. By virtue of this amendment, claims 1-2, 12, 14, 18-25 are cancelled and thus, claims 3-17 are currently presented in the instant application.

The indicated allowability of claims 3-8 is hereby withdrawn in view of a discovered reference to Edvarsson (U.S Patent No: 6,204,817). It has been applied in an obviousness rejection along with Shamir et al (Pub. NO:U.S 2004/0135726A1) already of record. A double patenting rejection has also been included based upon copending application No: 10/375,423.

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 3-8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2-9, 11-14, 16-17 and 21-25 copending Application No. 10/375,423 in view of U.S. Patent No. Shamir et al (Pub. No: U.S 2004/0135726A1) and Edvardsson (U.S Patent No: 6,204,817).

This is a provisional obviousness-type double patenting rejection.

Regarding claims 3-4, claim 2 of copending Application No. 10/375,423 obviously discloses all of the claimed inventions of the claims 3-4 except for the third portion define capacitively couple dipole antenna.

Shamir et al disclose, in figures 2a, and 7A and 7B, a magnetic loop dipole antenna comprising: a first portion (202); a second portion (204)( page 3, paragraphs {0030}}, lines 5-14), a third portion ( the loop, such as figures 7a- 7b), the third portion coupled to the first portion and to the second portion; and a substrate, the substrate comprising an antenna coupled to the substrate as an etched pattern of conductive material, such as copper, for example. The antenna is fed through a capacitive gap, or as a series capacitor from each lead of the feeder to a side of the conductive material forming the loop and wherein the first though the third portion defining respective capacitive and inductive areas, the substrate with a void, and wherein Shami et al show the capacitively coupled the magnetic dipole antenna with capacitive area that stand spans a void, for example, Edvardsson teaches that, a loop antenna is a magnetic dipole antenna. Therefore, these concepts and antenna terms are well established and would have been obvious to the skilled artisan in order to define the (magnetic) dipole antenna, with capacitive gap and void.

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Regarding claim 5-6, "wherein one or more portion of the third portion is disposed relative to the first portion and the second portion in a non-parallel relationship and wherein one or more portion of the third portion is disposed relative to the first portion and the second portion in a parallel relationship", claims 3-4 of copending Application No. 10/375,423 discloses all of the claimed inventions of the claims 5-6.

Regarding claim 7, "wherein the antenna comprises a high dissipation factor substrate, and wherein at least the first and second portion are coupled to the high dissipation factor substrate.", claims 6-8 of copending Application No. 10/375,423 discloses all of the claimed inventions of the claim 7.

Regarding claim 8, "wherein the substrate comprises a FR4 substrate.", claim 9 of copending Application No. 10/375,423 discloses all of the claimed inventions of the claim 8.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Shamir et al (Pub. No: U.S 2004/0135726A1) in view of Edvardsson (U.S Patent No: 6,204,817).

Regarding claim 3, Shamir et al disclose, in figures 2a, and 7A and 7B, a magnetic loop dipole antenna comprising: a first portion (202); a second portion (204)( page 3, paragraphs {0030}, lines 5-14), a third portion ( the loop, such as figures 7a- 7b), the third portion coupled to the first portion and to the second portion; and a substrate, the substrate comprising an antenna coupled to the substrate as an etched pattern of conductive material, such as copper, for example. The antenna is fed through a capacitive gap or as a series capacitor from each lead of the feeder to a side of the conductive material forming the loop. The capacitance is an electrical gap and the void is a disruption of the conduction material at the gap. Thus, the capacitive area claimed in Claim 3, for example, substantially spans the void within the periphery of the substrate, as recited.

Although Shamir et al. do not specifically call their loop antenna a "[magnetic] dipole antenna", and do not point out that the loop is an "inductive area", such terms and characteristics of antennas are implied, well known and established in the antenna art. Thus, Edvardsson is cited as evidence of obviousness and as resolving the level of ordinary skill in the antenna art and specifically points out that a loop antenna is a magnetic dipole antenna, for example, in Fig. 3a (which illustrates the contrast and distinction with the linear rods defining the electric dipole shown in Fig. 2a) as loop 16.

Edvardsson also specifically points out that the loop antenna, or magnetic dipole antenna, for example the element, 85 shown in Fig. 13a is an inductance, thus defining an inductive area as claimed.

From these teachings of loop antenna characteristics by Edvardsson, a skilled artisan therefore, would have found it obvious that the loop antenna of Shamir et al. defines a magnetic dipole antenna, or simply the dipole antenna claimed in Claim 3, and that the radiating portion defines an inductance or "inductive area", as claimed.

Regarding claim 4, Sahmir et al disclose all of the claimed subject matter, as expressly recited in claim 3, "wherein the third portion comprises a length having a first end and a second end, and wherein the length is longer than a straight line distance between the first end and the second end", because the loop in Shamir et al. is longer than a straight line between its ends.

Regarding claims 5-6, Sahmir et al disclose all of the claimed subject matter, as expressly recited in claim 3, wherein one or more portion of the third portion is disposed relative to the first portion and the second portion in a parallel relationship. Figures 7A & 7B, show non-parallel and parallel portions of the loop relative to the other portions, as claimed.

Regarding claims 7-8, Shamir et al disclose wherein the substrate comprises a high dissipation factor substrate and wherein the substrate comprises a FR4. (Page 3, paragraph (0038), lines 1-12).

***Allowable Subject Matter***

5. Claims 9-11, 13-17 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art of record does not teach that, "wherein the substrate comprises a second void, wherein at least one of the plurality of circuits is disposed within the second void "in combination with all limitations recited in independent claim 9 (claims 10-11, 13-17 are allowable, since they are dependent on claim 9).

***Response to Amendment***

6. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR



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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Minh A

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Date 2/17/09

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821